

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Bases of electronics and the telecommunications		Code 1010331411010327054
Field of study Information Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 1
Elective path/specialty -	Subject offered in: polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: - Laboratory: 2 Project/seminars: -		No. of credits 4
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 4 100% 4 100%
Responsible for subject / lecturer: Prof. dr hab. inż. Konrad Skowronek email: konrad.skowronek@put.poznan.pl tel. 616652388 Elektryczny ul. Piotrowo 3A, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge of mathematics, physics and electrical engineering basics.
2	Skills	The ability to understand and interpret knowledge conveyed in the classroom. Ability to effectively self-education in a field related to the chosen field of study.
3	Social competencies	Is aware of the need to broaden their competence, willingness to work together as a team.
Assumptions and objectives of the course: Knowing the size of the physical and fundamental circuit theory. Knowledge of methods of analysis of electronic circuits and systems, telecommunications.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Modeling to characterize the elements and principles of electrical circuits, including electronic. - [K_W02 +++, K_W03 ++] 2. Explain the principles of operation of any linear and linearized electromagnetic devices, electronics and telecommunications. - [K_W03 ++]		
Skills: 1. Apply knowledge of electrical circuit theory and necessary to determine the relevant parameters of electromagnetic analog and digital circuits. - [K_U08 ++] 2. Obtain information from the literature and the Internet, work individually, independently solve problems in the theory of modeling and analysis of electrical circuits. - [K_U01 ++, K_U03 +]		
Social competencies: 1. Able to think and act in an entrepreneurial manner in the analysis of electrical circuits, electronic and telecommunication. - [K_K01 +]		
Assessment methods of study outcomes		

<p>Lecture: ? assess the knowledge and skills listed on the written test of the theory of electronics and telecommunications.</p> <p>Laboratory: ? to evaluate the skills to prepare the measurement circuitry and communication - skills check for each class and one test during the semester.</p> <p>Get extra points for the activity in the classroom, and in particular for: ? propose to discuss additional aspects of the subject; ? the effectiveness of the application of the knowledge gained during solving the given problem; ? ability to work within a team practice performing the task detailed in the laboratory; ? subsequent to the improvement of teaching materials; ? developed aesthetic diligence reports and jobs - in the self-study.</p>		
Course description		
<p>History and basic concepts in electrical engineering. Electrical signals and their classification. Basic concepts of electrical circuit with discrete parameters. The basic elements and the electronics. Mathematical models of electrical and electronic components. Basic knowledge of telecommunications systems and circuits. Media transport. The analysis of digital circuits in telecommunications.</p>		
Basic bibliography:		
<p>1. Bolkowski S. "Teoria obwodów elektrycznych", WNT, Warszawa, 1998 2. Krakowski M. "Elektrotechnika Teoretyczna. T.1", PWN, Warszawa, 1995 3. Lurch E. "Podstawy Techniki Elektronicznej", PWN Warszawa 4. Wesołowski K. "Podstawy cyfrowych systemów telekomunikacyjnych", WKŁ, 2006</p>		
Additional bibliography:		
<p>1. Mikołajuk K., Trzaska Z. "Zbiór zadań z elektrotechniki teoretycznej", WNT, W-a, 1978 2. Chua L.O., Desoer C.A., Kuh E.S. "Linear and Nonlinear Circuits", McGraw-Hill Inc., 1987 3. Internet</p>		
Result of average student's workload		
Activity	Time (working hours)	
1. participation in lecture classes	15	
2. participation in laboratory classes	30	
3. participation in consultation concerning the lecture	6	
4. participation in consultation concerning the laboratory	12	
5. preparation for the test/exam	24	
6. test/exam	4	
7. preparing the laboratory description	26	
Student's workload		
Source of workload	hours	ECTS
Total workload	117	4
Contact hours	67	2
Practical activities	68	3